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2/24/2025 4:54 PM
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IN THE DISTRICT COURT OF THE FOURTH JUDICIAL DISTRICT OF THE STATE OF IDAHO, IN AND FOR THE COUNTY OF ADA

STATE OF IDAHO, **Plaintiff,** **V.** **BRYAN C. KOHBERGER,** **Defendant.**	**CASE NUMBER CR01-24-31665** **MOTION IN LIMINE #6** **RE: RYLENE NOWLIN AND REFERENCE TO "TOUCH" AND "CONTACT" DNA**

COMES NOW, Bryan C. Kohberger, by and through his attorneys of record, and pursuant to the Idaho Rules of Evidence, moves this Honorable Court for an *Order in Limine* excluding the testimony of Rylene Nowlin and any testimony 1) referencing the terms "touch" or "contact"

DNA[1] or 2) purporting to be an opinion of the means or mechanism for DNA being placed on the sheath by any witness called to testify about DNA. Both the term "touch" or "contact" DNA or any opinion regarding how DNA ends up on an item, is misleading in that it assumes facts that must be proven, would be confusing to the jury and waste substantial time in debunking the testimony of an expert that is outside the purview of the field expertise and qualifications. Furthermore, the opinions of this expert has not been disclosed to Mr. Kohberger. As set forth below, the how and when of DNA arrives on an object cannot be scientifically determined and is not the proper subject of expert testimony.

The use of this language confuses and misleads the finder of fact and is barred by the Rules 402, 403, as well as due process in that the evidence is overly prejudicial. The erroneous admission of irrelevant and prejudicial evidence will offend due process when it renders a trial fundamentally unfair (*Estelle v. McGuire* (1991) 502 U.S. 62, 70).

RELEVANT FACTS

A knife sheath that was recovered tucked under the covers next to Ms. Mogen at 1122 King Road, Moscow Idaho on November 13, 2022.[2] The sheath was tested using standard DNA STR methods by the Idaho State Police (ISP) lab. Item Q1.1,[3] a swab from the sheath, resulted in a single source male profile. This profile was uploaded to the CODIS DNA[4] database and resulted

[1] The government has indicated that these terms will be used at trial. In Exhibit S-21, the disclosure for witness Rylene Nowlin, the government stated that Ms. Nowlin would testify about general topics including what is labels as "touch" DNA.

[2] The exact location of the sheath is unclear in both photographs of the room and in the written description of its location. The body cam footage of one of the first officers on scene shows the sheath tucked under the covers next to Ms. Mogen.

[3] While Item Q1.1 was tested for DNA, it was never subjected to standard biological testing for the presence of blood or saliva. In one exchange of emails, Rylene Nowlin described the swabbing as being of the leather strap and internal metal area of the snap. The snap itself may not have been swabbed at all for DNA. The defense has no ability to retest based on the fingerprint process on the sheath.

[4] The other two male profiles, identified in the ISP lab reports as Unknown B and Unknown D, were never run through CODIS or subjected to IGG testing. The defense has never received an explanation as to why these two male profiles were not further investigated.

in no hits to known offenders. In its disclosures, the government has indicated that Rylene Nowlin from the ISP lab will testify as follows:

> Ms. Nowlin will also testify to touch DNA and transfer of DNA. Specifically, Nowlin will testify to the characteristics and nature of touch DNA, including how it is deposited and transferred to an item of evidence; the methods used to collect and preserve touch DNA samples from items of evidence; the procedures and protocols used by forensic scientists to extract and analyze touch DNA; the manner in which results from touch DNA samples are interpreted; and the reliability of touch DNA analysis and its acceptability in the field of forensic science. Nowlin will also testify to the potential for DNA to transfer between an individual and an object(s), including the distinction between primary and secondary transfer and the factors influencing the likelihood of transfer

(Exhibit S-21, Rylene Nowlin).[5]

On February 17, 2025, the State produced a second round of disclosures including one from Rylene Nowlin. Exhibit S-11. As with the first disclosure the focus of this second disclosure is touch/contact DNA and direct versus indirect transfer. Although conceding that currently DNA technology cannot conclusively answer the question the State offers the following opinion:

> Many complicated factors can influence the likelihood of transfer of DNA and the persistence of the transferred DNA after deposition. ***Current DNA technology cannot conclusively answer the question of when DNA was deposited on an item or by what mechanism*** (i.e. direct or indirect transfer). It is possible the DNA detected on M2022-4843 Item 1.1 resulted from secondary transfer; however, based on Nowlin's ***training and experience it is her opinion*** given the quantity of DNA detected on M2022-4843 Item 1.1 (0.168ng/µl) and given the DNA profile obtained is single source it is more likely the result of a direct transfer.

Exhibit S-11 at 3.

ARGUMENT

A. Introduction to the concept of touch DNA and transfer opinions

[5] The government has not indicated what her opinion on any of these matters is, leaving the defense as substantial disadvantage as to properly challenging the testimony, other than in a general way. If the court is inclined to deny this motion, Mr. Kohberger would ask for the court hold an evidentiary hearing to explore Ms. Nowlin's potential testimony in this regard.

The terms "touch" and "contact" DNA came into use as the forensic community shifted from the testing of obvious identifiable stains such as blood or semen, to samples that can not be identified via a biological test based on the increasing sensitivity of DNA tests. Sample such as swabs from steering wheels of a carjacked vehicle or window jams in a burglary were collected and tested on the theory that a person would have in contact with the object and left DNA behind in the form of skin or other cells. Hence the terms "touch" or "contact." The forensic community began to conduct research into the question of how DNA in the form of biological material moves in the environment, and this research led to the conclusion that it is impossible to determine how a particular deposit of DNA came to be on an object. In 2013, an article which reviewed the state of the research at that time made the following conclusions:

- Full DNA profiles can be recovered from items that have not been touched, but have been in the vicinity of someone speaking or coughing;
- It is not possible to establish from the amount of DNA recovered from a surface whether the DNA was deposited there by a single touch or by regular use;
- It is not possible to use the amount of DNA recovered from an item of interest to inform whether the DNA was deposited by direct contact or indirect transfer;
- It is impossible to know from the quality of a DNA profile obtained whether the DNA was deposited by direct contact or indirect transfer

G. Meakin, A. Jamieson, *DNA transfer: Review and implications for casework*, Forensic Sci. Int. Genet. 7 (2013) 434-443. The authors introduced the concept of trace DNA defined "DNA that cannot yet be attributed to an identifiable body fluid." (*Id*. at 435). The authors rejected the term "touch DNA" as misleading as "such a term infers that the DNA recovered from a surface got there via that surface being touched, but this is usually not known." (*Id.*)

This review was followed by a similar review article by a different group of scientists six years later which reached similar conclusions:

> Appropriately trained forensic practitioners are best placed to provide opinion and guidance on the interpretation of profiles at the activity level. ***However, those requested to provide expert opinion on DNA-related activity level issues are often insufficiently trained to do so. We advocate recognition of DNA activity***

> ***associated expertise to be distinct from expertise associated with the identification of individuals.*** This is to be supported by dedicated training, competency testing, authorization, and regular fit for purpose proficiency testing

R. van Oorschot, et al., *DNA transfer in forensic science: A review,* Forensic Sci. Int. Genet. 38 (2019) 140-166 [emphasis added]. The term "activity level" refers to the question of 'the when and how" of what happened, such how did the DNA come to be on an object and how long had it been there?[6]

Examples of indirect transfer of what might be characterized as "touch" or "contact" DNA are numerous and are summarized in the two review articles described above. van Oorschat et al discussed the use of the term "touch DNA" as one that "can be misleading, as it implies a specific mode of action and, to some degree, also a type of biological source. Using a less descriptive term such as 'trace DNA' is a more appropriate term to be used in casework when the source and mode of deposition are unknown." (*Id.* at 144). The article is an illustration of how extremely complex the question of how and when is given the identification of a sample that has no biological source such as blood.[7]

van Oorschot et al summarized the routes of transfer considered in the body of research in the illustration below:

[6] Gill et. al., *Assessing the value of Forensic Evidence- guidelines highlighting the importance of propositions. Part I: Evaluation of DNA profiling comparisons given (sub-)source propositions.* Forensic Science International: Genetics 36 (2018) 189-202
Gill et. al., *Assessing the value of forensic biological evidence-guidelines highlighting the importance of propositions. Part II: Evaluation of biological traces considering activity level propositions.* Forensic Science International: Genetics 44 (2020)

[7] The authors cite 298 published articles in the area of DNA transfer.

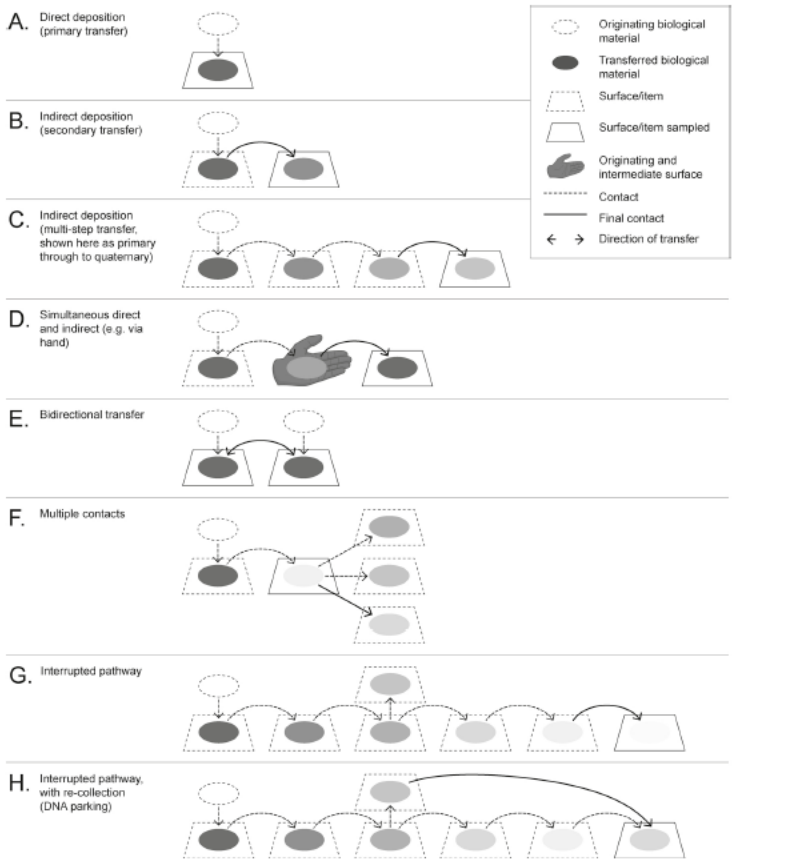
A. Direct deposition (primary transfer)
B. Indirect deposition (secondary transfer)
C. Indirect deposition (multi-step transfer, shown here as primary through to quaternary)
D. Simultaneous direct and indirect (e.g. via hand)
E. Bidirectional transfer
F. Multiple contacts
G. Interrupted pathway
H. Interrupted pathway, with re-collection (DNA parking)
Originating biological material
Transferred biological material
Surface/item
Surface/item sampled
Originating and intermediate surface
Contact
Final contact
Direction of transfer

Fig. 1. Diagrammatic illustration of various modes of transfer.

Despite this wealth of information and scientific study, the authors conclude that more work is necessary and that the expertise to offer activity level opinions, the how and when, is beyond the expertise of crime lab analysts.

Then in 2024, NIST, the National Institutes of Standards, published a document entitled Forensic DNA Interpretation and Human Factors: Improving Practice Through a Systems Approach.[8] This document was the result of extensive work and years of public review and comment. The Expert Working Group (EWG) on Human Factors in Forensic DNA Interpretation began work in 2020 with the goal of "recommending strategies for improving the production, evaluation, and communication of DNA results." (*id.* at 1). The EWG consisted of experts in the

[8] https://doi.org/10.6028/NIST.IR.8503

field of forensic DNA (*Id*. at 2-4) and was subject to repeated rounds of public comment from the greater forensic community.

Most notably for this Court, the EWG addressed the question of transfer and the ability of experts to proffer opinions. The EWG addressed the following question:

> But a further important question is what activities led to the presence of that DNA. ***With the increased sensitivity of DNA techniques and sophisticated software, a DNA profile may be developed even when the contributor of that DNA never touched the item or area that was swabbed. Alternatively, a person's DNA may be present when they were not involved in the crime***. Therefore, considering how or when the DNA may have been deposited (or why it was not recovered) can be vital.

(*Id.* at 172, §7.1 [emphasis added]). "Except in ground-truth-known experiments, where an individual is observed to have been in contact with a surface/location, it is not possible to know whether the transfer was direct or indirect." (*Id.* at §7.2). The assessment of what is called TPPR (Transfer, persistence, prevalence and recovery) is a "separate skill, distinct from "standard" DNA profiling and interpretation . . . . there are not adequate educational opportunities to inform these types of issues within the United States." (*Id*. at 173-74). The EWG concluded that an "expert rarely (if ever) has all the information needed to perform a robust, balanced, and transparent evaluation of biological results regarding transfer or specific activities on the witness stand." (*Id.* at 175, §7.2.1). The EWG offered proposed responses to questions of how and when DNA arrived on an object, none of which include a statement of how:

Table 7.1: Proposed responses to questions about how or when the DNA was deposited

Example of Questions Posed to DNA Experts	Proposed Ways for the Expert to Respond
In your opinion, is direct transfer more likely than indirect?	• DNA analysis does not allow a scientist to directly answer how the DNA was deposited (direct or indirect transfer). The DNA results presented in my report regard the comparison of DNA profiles and can only help answer questions about whose DNA may be present or not. • My testimony about the value of the DNA comparison is only meaningful to help the jury determine who the source of the DNA was. That testimony does not provide any information that addresses the issues of how or when.
Could this [alleged activity] have happened?	• Offering an opinion on this question would amount to speculating on what is alleged. It is not my role as a scientist to speculate about or determine what happened.
Is it possible that the DNA was deposited when the Person of Interest (POI) [engaged in an activity at the scene prior to or after the alleged event]?	• It is not my role to discuss the possibility of the alleged event (or any other event). My expertise is based upon DNA profile comparisons which can only assist in helping you answer questions about whose DNA is present or not. • Agreeing that something is "possible" is not the same as offering an opinion about the probability of the results in the context of case-specific circumstances. • Discussing whether something is possible does not help me convey the significance of the results in the context of this case. For example, getting struck by lightning or flipping a coin and getting "heads" are both possible but have very different probabilities.
Are there other explanations for the presence (or absence) of this DNA?	• It would be inappropriate and speculative for me to discuss why the DNA was or was not detected. • Answering this question would not allow me to convey a balanced assessment of the findings in the context of this case. • The only way I can evaluate the results is by considering at least two opposing views.

The only conclusion that this Court can draw is that opinions regarding the means and manner in which DNA was deposited on an item is not considered a proper topic of expert opinion for a DNA analyst and likely to lead to undue prejudice to Mr. Kohberger and would render his trial fundamentally unfair.

B. This court must exclude the opinion of Rylene Nowlin

As set forth above, an expert cannot offer opinions within their expertise. The expertise of the typical lab analyst is not sufficient to allow them to be considered an expert in the area the mechanism of DNA transfer. Nowlin's disclosure concedes as much in that she acknowledges that current methods cannot conclusively offer an answer to the question of when and how. Nowlin cannot be allowed to substitute her judgment in the face of the weight of the forensic community's agreement that the science and literature does not support ***any analyst*** testifying about the when and how of transfer. This opinion falls outside the norm for forensic DNA experts and would be

highly speculative. Given the nature of the opinion proffered and the recommendations in the NIST Human Factors report, this opinion would be highly speculative. In addition, it would have the tendancy to mislead and confuse the jury and would require undue consumption of time to refute with the scientific articles and reports that clearly conflict with this proffered testimony.

C. This is disclosure is not proper rebuttal testimony

Nowlin's disclosure contains an opinion that is not rebuttal but appears to be the State's theory of the case: that the DNA from Mr. Kohberger arrived on the knife sheath via direct contact. A close reading of the disclosure for Mr. Kohberger's DNA witness Dr. Ruth Ballard does not contain any opinion regarding the how and when the DNA arrived on the sheath. This testimony should be excluded.

D. This court must exclude the use of the terms "touch" or "contact" DNA[9]

Under I.R.E. 403, this Court may exclude the use of the terms "touch" or "contact" DNA "if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, misleading the jury, undue delay, wasting time, or needlessly presenting cumulative evidence." I.R.E. 403. "This rule requires the court to balance the probative value of the evidence against the danger that the evidence may be unfairly prejudicial." *State v. Johnson*, --- Idaho ---, 544 P.3d 766, 774 (Idaho 2024). See also I.R.E. 403.

Here, the terms "touch" and "contact" are misleading in that the forensic community has determined through empirical research that it is not possible for a DNA expert to testify as to how DNA was deposited on an item. The two terms insinuate that the deposit must have come from direct contact with an object rather than the myriad other possible means of transfer documented in the literature.

[9] This prohibition should apply to both the questioner and witness and the use of this term in opening statements. While this motion is focused on Ms. Nowlin, the generic statements in the disclosure for DNA witnesses raises the same concerns and this motion should be applied to all witness who testify about DNA.

Furthermore, allowing testimony regarding the manner in which the DNA was deposited on the sheath, would implicate the same concerns that the use of the two terms, "touch" and "contact" invoke. The forensic community consensus and an extensive body of research shows that the "how and when" opinions in DNA testing far exceed the expertise of a DNA analyst and are not founded in science.

In this case, the only DNA evidence that implicates Mr. Kohberger is the DNA found on the sheath found in the residence. From the lab reports and notes as well as recent testimony by Rylene Nowlin, it appears that at the sample Q1.1 was a swabbing of the leather strap on the sheath as well as the interior of the snap, not the outer snap surface, which apparently was not sampled in order to preserve the surface for fingerprinting. No serological testing was done on the area swabbed for Q1.1 to identify any biological material.[10] An area identified as Q1.4, "swabs of stains on back" of the sheath, tested presumptively positive for blood and was DNA tested. Mr. Kohberger was excluded from this particular sample which was identified as a mixture (ISP Lab Report M2022-4843, #4). Thus, the government has the burden to prove the when and how of the DNA identified in Q1.1.

Allowing the use of these two terms would mislead the jury to believe that there was evidence to support the conclusion of direct contact when in fact there is no direct evidence. The admission of these terms would lead to a substantial waste of time in that it would require not only extensive cross examination of the government's witnesses on the topic, but also rebuttal testimony from defense experts on this question. Furthermore, the use of this language would unfairly prejudice Mr. Kohberger. "Unfair prejudice" is prejudice that "tends to suggest a decision on an improper basis." *Johnson*, 544 P.3d at 774 citing S*tate v. Diaz*, 170 Idaho 79, 91, 507 P.3d 1109, 1121 (2022). If the language is used, the jury might well believe through expert testimony, as

[10] Other portions of the sheath were tested for the presence of blood.

opposed to factual testimony, that Mr. Kohberger left his DNA on the sheath via direct contact, a fact that the government must prove. As a consequence, there is a danger that the jury would reach a decision on an improper basis due to evidence that is unfairly prejudicial.

CONCLUSION

As set forth above, the forensic community has come to a consensus that DNA analysts do not have the expertise to render opinions on how and when a DNA sample arrived on an object. In addition to being misleading and inaccurate, allowing such testimony would result in an undue consumption of time. This type of opinion testimony would not satisfy I.R.E. 703, in that the expert cannot be qualified to proffer such an opinion because it falls outside the experts "specialized knowledge." The question of how and when is not for a lab analyst and as the EWG points out, there is no training program in the United States that would provide expertise for such an opinion. Mr. Kohberger respectfully requests this Court grant his Motion in *Limine* to exclude any use of the language "touch" and "contact" in the context of the DNA testing of the sheath and any opinion of how and when the DNA on the sheath was deposited.

DATED this ___24____ day of February, 2025.

BICKA BARLOW
ATTORNEY AT LAW

CERTIFICATE OF DELIVERY

I hereby certify that a true and correct copy of the foregoing was personally served as indicated below on the ___24____ day of February, 2025, addressed to:

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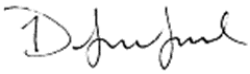

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